

REMARKS

Claims 21-25, and 27-59 remain in the application including independent claims 21, 29, 31, 32, 36, 46, and 58. Claims 1-20 and 26 have been cancelled. Claims 31-35, 40-42, and 44-45 are indicated as allowable. Claims 31 and 32 have been rewritten in independent form to include all limitations of the base claim and any intervening claims. Thus, claims 31-35 are now in condition for allowance.

The drawings have been revised to include text inside the numbered blocks in Figures 1 and 5. A corrected sheet of drawings is attached hereto. Applicant asserts that all drawings objections have now been overcome.

Claims 21-25, 30, 36, and 43 stand rejected under 35 U.S.C. 102(a) as being anticipated by Pramler (GB 2343953). Claim 21 has been amended to include the features of claim 26 and any intervening claims. Thus, the rejections of claims 21-25 and 30 are moot.

The weight sensor assembly of claim 36 includes the feature of a bending beam having a first connection portion engageable with an upper seat structure and a second connection portion engageable with a lower seat structure and a bendable central body portion that is coplanar with and extends between the first and second connection portions. Pramler does not disclose this configuration.

The examiner argues that Pramler discloses a bending beam 13 with a first connecting portion 14, a second connection portion 16, and a central body portion 15 extending between the first and second connecting portions 14, 16. It is clear from Figures 1-3 of Pramler that the first and second connection portions 14, 16 are not coplanar with the central body portion 15. The first connecting portion 14 is in a first plane, the central body portion 15 is in a second plane, and

the second connecting portion 15 is in a third plane. The first plane is vertically higher than the second plane and the second plane is vertically higher than the third plane. Thus, Pramler does not disclose all of the features of claim 36 or 43, which is dependent from claim 36.

Claims 26-29, 37-39, and 46-59 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Pramler alone. Claim 26 has been incorporated into claim 21. Claim 29 has been rewritten in independent form to include all the limitations of the base claim and any intervening claims.

Claim 26, now claim 21, includes the feature of the beam having an extension portion extending beyond one of the first or second connecting portions for supporting an electrical connector for connecting the sensor to a processing unit. The examiner admits that Pramler does not disclose this feature. However, the examiner argues that it would be obvious that Pramler would have some connecting means for connecting to a processing unit.

While Pramler may have some connecting means for connecting the sensors to the processing unit, there is no teaching in Pramler that the end portions of the beam include supports for electrical components. This is only found in applicant's disclosure and cannot be used as motivation or suggestion to modify Pramler as this is an improper use of hindsight reconstruction.

Further, the examiner argues that "[l]acking any criticality as to why there must be an extension, how it would produce any unexpected result, or how it would solve any stated problem, it appears any device which provides support of the electrical connector would be functionally equivalent as the extension portion." Applicant disagrees.

As discussed in the background of the subject application, applicant was seeking to provide a more accurate sensing system with a mounting configuration that would be able to provide sufficient bending and deflection to cover a wide range of occupant sizes. By improving the geometry of the beam and by incorporating the electronic components onto the beam, accuracy is improved over prior designs. Further, positioning the connectors on the end allows the connectors to be easily connected to the ECU by use of the linear insertion force. This improved configuration addresses the problems identified in the prior art. Thus, the examiner's rejection of claims 26-28 and 37-39 is improper and must be withdrawn.

Claim 29 includes the feature of traces for electrically connecting the sensor to an electronics package wherein the sensor and the traces are screen printed on the beam. Pramler does not disclose, suggest, or teach any type of electronics package connected to the sensor and certainly does not disclose the use of traces interconnecting the sensor to the electronics package. The examiner argues that Pramler inherently includes such features because they are conventional features. Applicant strongly objects to this characterization and requests that the examiner provide a reference that teaches the use of these features.

Independent claim 46 includes the feature of a sensor assembly comprising a first thick film portion applied directly to the central body portion for measuring the strain resulting from a weight force being exerted against the upper seat structure. The examiner has taken official notice that because "the use of thick-film strain gage is conventional in the art; therefore, it would have been obvious to one skilled in the art to use thick film strain gage in the device of Pramler because it is conventional."

Applicant is not claiming to have invented thick film technology, as the art of thick film technology is well-known. Applicant is claiming the formation of a seat occupant weight sensor assembly by using thick film technology to form the sensor portion on the beam. This is not conventional. Thus, applicant traverses any Official Notices or well-known assertions taken by examiner and respectfully requests that the examiner provide a reference for each of these assertions. For example, applicant requests that the examiner provide a reference that shows a seat sensor assembly that discloses or teaches the use of thick film technology for forming a sensor portion on a beam. Further, as examiner is rejecting certain claims under 35 U.S.C. 103(a), applicant respectfully requests that the examiner indicate the motivation or suggestion to modify the base reference with the secondary reference disclosing the well-known assertion.

Claim 47 includes the feature of an electrical component mounted to one end of the bending beam for communicating the weight signal to a control unit and a plurality of traces interconnecting the electrical component and the sensor assembly. Pramler does not disclose, suggest, or teach any type of electrical component mounted to an end of the beam and certainly does not disclose the use of traces interconnecting the sensor to the electrical component.

The examiner argues that Pramler inherently includes such features because they are conventional features. Applicant objects to this characterization and requests that the examiner provide a reference that teaches the use of these features. If these features are as conventional in the art as the examiner claims, the examiner should have no problem providing a reference to show these features.

Claim 48 includes the feature of the traces having a second thick film portion formed contiguously with the first thick film portion. Claim 49 includes the feature of the first and

second thick film portions being screen printed on the bending beam using a thick film material. Claim 50 includes the feature that the electrical component, sensor assembly, and traces are simultaneously screen printed on the bending beam using the thick film material. Claim 51 requires the sensor assembly to have a plurality of grids with associated electronics to form a full-bridge strain gage.

There is absolutely no teaching of any of these features in Pramler. Again, the examiner argues that these features are conventional. Again, applicant objects to this characterization and requests that the examiner provide a reference that teaches the use of these features and requests that the examiner indicate the motivation or suggestion to modify the base reference with the secondary reference disclosing these features. If these features are as conventional in the art as the examiner claims, the examiner should have no problem providing a reference to show these features.

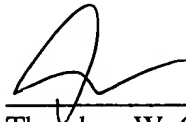
Claim 52 includes an electrical connector that cooperates with the electrical component to communicate the weight signal to the control unit. Claim 53 includes the feature of the bending beam defining a longitudinal axis and including an extension portion formed at one end for supporting the electrical connector wherein the electrical connector is coupled to the electrical component via a linear insertion force in a direction generally parallel to the longitudinal axis. There is absolutely no suggestion or teaching of this combination of features in Pramler. Applicant asserts that it is not well known to use an electrical connector on the end of the bending beam for a seat sensor assembly. The examiner has no basis for asserting that this configuration is inherent or obvious. Applicant requests that the examiner provide a reference that teaches this sensor configuration.

Claim 54 includes the feature of the central body portion being coplanar with the first and second connection portions, and which includes a narrowing neck to concentrate strain in the central body portion. As discussed above, Pramler teaches a very different configuration where the first and second connection portions and the central body portion are non-coplanar.

For the reasons set forth above, especially with regard to claims 46 and 48-50, claims 56-59 are also allowable over the cited art.

A check is enclosed to cover the cost of the additional independent claims. It is believed that no additional fees are due, however, the Commissioner is authorized to charge Deposit Account No. 50-1482, in the name of Carlson, Gaskey & Olds, for any additional fees or credit the account for any overpayment.

Respectfully submitted,

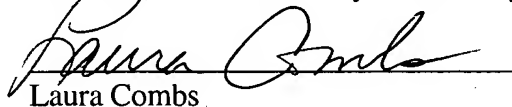


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CERTIFICATE OF MAIL

I hereby certify that the enclosed Response is being deposited with the United States Postal Service as First Class Mail, postage prepaid, in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 11 day of February, 2004.


Laura Combs